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# Computer PLAYER

February 1996

Volume 5 Number 2

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1. *Journal of the American Medical Association*, 1997; 277: 1033-1038.

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**Figure 1**

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**Figure 1**

1. **Computer** (CPU) and **RAM** (Random Access Memory) are essential components of a computer system.

**Abstract**

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## Damage Delay First Jet Drive

Damage Corp. says it has begun shipping its MSB removable drive for drive.

The company based in King, Utah, notes the limited quantities of the external removable hard provided "early access within the professional space and other industries" is large with that it expects to begin shipments of internal and external jet drives to retailers and others in the first quarter of 1996.

Recent price reports indicated that damage might be forced to delay jet drive products. The company has experienced serious bankruptcy problems for several months on the parallel jet version of Zip, its 100MB removable disk drive.

## Epson Reveals New PC Cards

Epson America Inc. has introduced two new plug-in PC cards designed for use in portable PCs.

The EP505044 is a 340MB high-density hard disk card. Epson says the Type 80 PC card is rugged enough to withstand 7000s of impact and still maintain media transfer rates of up to 4MB per second and interface transfer rates of 2MB per second. The card is scheduled to become generally available later this month for \$129.99.

Epson's EP505033 is a 38.4Kbps jet drive for mobile use. The Type 80 card features a proven "Black Channel" that allows storage in standard telephone lines. Epson notes that the EP505033 complies with all major data file specifications. The card will be marketed with Windows and Macintosh file software. The card is set to ship later this month for \$129.99.

## Mobile Computer Sales to Rise

Workforce mobile computer sales will meet their double from \$20 billion in 1992 to nearly \$40 billion by 2001, growing at an 18 percent compound annual rate, says a market researcher Frost & Sullivan.

A study based by the company, which is based in Menlo Park, California, finds that portable computer sales are growing twice as fast as desktop PCs, with some companies replacing desktops with portables.

The study says that plug-in PC cards will increase their share of market revenue from 4 percent in 1995 to 9 percent in 2001, while pen and tablet computers will hold steady at 2 percent each and portable printers will decline from their current 1 percent market level.

The study says that while pen handwriting recognition technology has improved, pen computing will not replace keyboards. The study also notes that personal digital assistants (PDAs) will continue to succeed in niche markets, but will not gain widespread adoption before they become the single industry product in their categories.

## Lynx Girls CFO From Disney

Walt Disney World's chief financial officer Lynx has been named Lynx's "Chief Financial Officer."

Philip, who was most recently vice president and assistant manager of The Walt Disney Company, will oversee all of Lynx's financial activities.

At Disney, Philip was responsible for several innovative financing transactions.

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including approximately \$1.5 billion in this country, \$10 billion in bank borrowings and the first 100-year bond issue sold by a corporation in more than 40 years.

Philby was also instrumental in winning the expansion financing for Capital Cities/ABC, Miramax Pictures and The Mighty Ducks hockey franchise.

Prior to his work for Disney, Philby was an investment banker for both Morgan Stanley & Company and Salomon Brothers Inc.

The Lions' return figure is located at <http://www.lions.com>.

### Doctor Says Kids Addicted to Net

A British psychiatrist says young children are becoming addicted to the Internet, spending up to 14 hours a day online. He believes this might translate to drug or alcohol abuse.

Reporting from London, the *Times* News Service quotes Dr. Mark Griffiths of Nottingham Trent University in the English Midlands as saying, "As the number of people who have access to the Internet grows, the number of people addicted to it will grow."

Dr. Griffiths doesn't see the problem as being too serious a concern, but they should try to make sure it is not used to excess.

Griffiths says children who spend up to 14 hours a day on the Net could suffer loss with friends and fail to develop mature relationships.

### Foreign Chip Share in Japan Up

A U.S. trade group reports foreign chip makers increased their share of the Japanese semiconductor market by 3.3 percentage points to a record 24.2 percent in the third quarter.

Reporting from San Jose, California, United Press International says officials with the Semiconductor Industry Association are noting the foreign share averaged 24 percent in the first three quarters of 1995, compared to an average of 21.9 percent during the first three quarters of 1994 and 19.4 percent for all of 1993.

U.P.I. notes Japan is expected to produce foreign products in volume of about a 20 percent share in its market.

### Company Recalls Memory Program

SelfRAM Inc., a Sunnyvale, California, memory program designed to mimic the function of living brain memory chips, is being recalled at the behest of a Federal government agency who claims the software doesn't work as promised.

The Associated Press says the software works as advertised for Windows 3.1, but is ineffective with the newer Windows 95 operating system.

"The company said it has learned it would get results on its package warning. Customers that SelfRAM would work only for Windows 3.1," AP reports. "The company issued the recall because software didn't work as one of the packages."

The wire service says SelfRAM has been one of the biggest-selling PC's in the United States for the last two years. It is a total for additional memory to use efficiently.

Officials with the Cyber City, California, firm said the wire service the New York office of the Federal Trade Commission has issued an inquiry into SelfRAM and that the company is responding. Also, the firm says New York filed against the company over the problem.

Meanwhile, the company officials say the firm is developing a version of the program that will work with Windows 95 and plan to ship the revised version to registered users and make a program that repairs the original's results available through online service.

### Online Super Bowl Site in Works

An Internet site available in English for the month leading up to the Super Bowl game is being created by NBC and the National Football League with the help of Microsoft Corp.

A Super Bowl preview show being created by NBC and the NFL, will be staged in part by equipment made via the Internet and, according to the Associated Press.

Web crawlers will be able to suggest topics to be included in the on-line TV special as behind-the-scenes game information which will be used the night before the Super Bowl. AP says Microsoft will help create and manage the system.

Both NBC and the NFL are selling advertising packages that include ads on the online service. Ann Kirschner, an executive for NFL Enterprises, said the sales will be going for about \$100,000, and will add to last year's sales which were modest.

### Telugui to Receive IBM Software

Apple Computer Inc. and IBM Corp. have outlined recent plans reports that their Telugui software will be followed with IBM about 200 jobs will be in the process.

The Telugui Group Technology Development Center will continue the development of Telugui software and accelerate their integration into IBM products. IBM will receive responsibility for marketing and distribution of all future Telugui products.

Telugui was formed in 1991 by Apple and IBM to develop a new application system based on object-oriented technology. Hewlett-Packard Co. bought the deal because in 1994.

"Telugui's primary technology is an important element in our object-oriented software strategy for enterprise-wide distributed computing," says Steve Mills, general manager of IBM's software relations division. "Telugui's commitment will allow us to accelerate delivery to our customers, to maintain our aggressive drive to provide software developers with powerful, consistent, object-oriented software that reflects in industry standards and meets enterprise needs."

### FBI in Probe NM in Argentina

A report in Buenos Aires says an FBI team will visit next Argentina to determine if IBM's bond will, currently involved in upgrade contracts in alleged bribery scheme, has broken U.S. law.

Federal Judge Adolfo Bagnasco leading the probe into alleged bribery is a similar to the \$140 million project to upgrade computers in the state-owned Banco Nacional, which IBM bank of the Buenos Aires branch for several years. The FBI went there this month to carry its February.

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Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	

Microsoft Corp. says its new integrated publishing system for the World Wide Web, nicknamed "Blackbird," will be marketed as the Microsoft Internet Suite.

The product is designed to allow content providers to create, publish and manage Internet Web pages. It supports the HTML standard, allowing Web browsers on any platform to view Internet Radio sites.

According to Informant1, the software works with existing content creation tools and is fully extensible via API controls and a software development kit. Without any programming or HTML coding, content providers using Microsoft Office can create content for the Web pages, incorporating hypertext documents, graphics, real-time based and animations.

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**Table 1**

Apple Computer Inc. apparently is ending the year-long licensing difficulties for Microsoft Corp.'s Windows 95 operating

Computerworld International writes that Apple finds itself in a bind because Microsoft's "Microsoft Language Tools" seem to overlap OS/2's claims over its software.

© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 103–110

and MD-800S license engines on Dec. 31, and the company "has been unable to reach any compromise with Ingersoll on the place in the license agreement that would reimburse the latter against any possible infringement of Ingersoll patents."

❑ Observers that join Microsoft for Windows 95 somehow benefit my laptop, "but Apple must join the software for its Windows-compatible boards from third parties and give them the same treatment."

1. **Background**

From Mykesson's house, west the Hammarby lake known golfers' dogan — a mill for President but there is no dogan — has long transformed into a local swimming area.

According to the *Barry Allen* section, "Boy Blames" takes us, "Down with Nature!" Flashed across screens related to water or reflected temperatures used the H&B tape together. Apart from the characters, even the water apparently is human, the wing person (who

"Dennis, who has twice won democratic elections, is an unpopular figure among liberals and students who oppose the House majority of blocking the 1980 resolution which repealed the Anti-Communist Act," Reuters comments. "Facing his history as a Communist sympathizer, however, he is

**Chicago Center for West Coast Studies**

In the wake of Germany's withdrawal as patronography in espionage, Chinese government officials called for improved management of the Internet to prevent perching among geographers material on the Internet.

The Russian News Service reports that Moscow had a good relationship from the Soviet Council (committee) and the office of the Communist Party's Central Committee and that there was increasing links between democratic legislative systems and the Internet.

Said the economist, "Good use of the Internet is of great importance to increase global educational exchanges, promote economic development and develop science, but because of weak management and lack of control over what enters the Internet, some pornography and other harmful material have come onto the screen."

<sup>10</sup>“Fig. Small takes different measures in the middle class,” the magazine said.

Meanwhile, the Netherlands, an interim provider last June of a volunteer service, told the press allegedly sourced headlines of newspaper stories of children, some that it

Reuters says the Amazon.com-based Internet service Noidell said the incident, which occurred around Christmas, marked the first time it had that close a call for operators who immediately cut the account.

The video serves as an on-the-spot historical photographic substitute for missing persons under 18 and illegal. Circumventing these rules is tantamount to piracy and thus comes at a cost.

Manufacturers and their suppliers across Asia. Wilson said the law applies to the Internet as well. New websites have reported that the manufacture of the Internet is prohibited.

He said the latest violator was an arrested man he was discussing before he left the court. "I could knock him down, but I'm not going to do it," he said.



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## Kohl Steps Down as Portland CEO

Portland International Inc. announced that founder Philippe Kohl stepped down as president and CEO. Kohl will remain with the software publisher as chairman. Gary Wood, 49, executive vice president of operations and chief financial officer, was named president and appointed to Portland's board of directors.

## Real Positioning Cost Intel \$400 Million

A \$400 million charge was taken by Intel Corp. to account for the costs of replacing its Real Positioning microprocessor.

## Computer Finds Shakespeare Poem

A computer program has confirmed that a 348-year-old poem identified in a library appears to be the work of William Shakespeare.

Scholar Donald Foster found the 278-line poem — "A Funeral Elegy in Memory of the Late Virginius Maister William Perce," about the death of a young son in 1612 — in the Oxford University library in 1984.

From Chicago, the Automated Poem reports Foster ran the poem through a program called SHAKSPOCO which he wrote to weed out poetry not really written by Shakespeare.

The software compares word usage and style with that of Shakespeare and 50 other Elizabethan writers. He said the new elegy fit Shakespeare's usage in all 17 tests made by the SHAKSPOCO program. The other meter tests also fit more than five times.

But Foster acknowledges that, even if it is accepted as one of Shakespeare's works, the poem will never be studied as one of his masterpieces.

Just the same, "It is sure a poem that will move its readers' heart, but it will change little or not at all for other hearts. It is, in a way, a minimum poem, talking of deathliness in a dead. He also talks of a mother's state of knowing death," possibly needed in a distant future."

He and Thomas Platter, publisher of Shakespeare's Sonnets, entered the 1612 elegy in London Stationers Register, a copyright depository, along with the initials "W S." Shakespeare's line plays were written at about the same time he died in 1616.

The poem reads in part:

"But whether that the means of my continuance  
'Ome to [unintelligible] last time, content,  
'Long may thy workman by some witness  
'Incorrupt the witness and dwelling meet, who  
knows but  
'Forever happy period  
'To this thou lovest, to death thou dost intend!"

## "W" Internet "Recovery" Program

The International Data Corp. is predicting a shift in corporate leadership opinion in the new year to Internet security on the Internet and World Wide Web. According to a report in "International" to a "Recovery" report in 1994.

The focus is on the Internet security, technology research and also predicts many companies that strength in online services now will make "discovering" trends in 1994 and decide to pull out of the Internet.

Meanwhile, IDC gave online services a "bustle" 1994 outlook.

Writing for United Press International, Andrea Molinari reports, "IDC said two of the leading online service providers — CompuServe, America Online, Microsoft Network and Prodigy — are expected to double in 1994. Among only two online game providers, users in the Web."

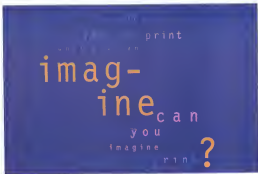
IDC Vice President Frank Davis said the Web service "The world will be seen for the creation of new leadership and the overall

of some current goals." He did not predict specifically which would fall.

Citing several "traffic" game" sponsored by his website, Davis added, "If they stop or during next year on the information superhighway, they could lose five to 10 million for two years to appear. Most will be underwritten by the content on the Web site they get done and cancel their online subscriptions."

Other IDC predictions reported by UPI: • Networks will develop new technologies to cope with the exponential growth of subscribers, whose numbers were expected to rise in the next five years from 4 million to 10 million to more than 200 million, reaching 1 billion by 2040.

• Providers will diversify services through file compression, adding high-speed telephone lines and hooking up larger computers.



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market is expected to continue its growth in 1996 with IDC which is offering an initial forecast of \$205 billion by the end of the calendar year

According to IDC, Computer Associates purchase of Legato Corp. IBM's acquisition of Lotus Development Corp., and Phoenix Software's success (technology) acquisitions continued the consolidation trend in the software industry. At the same time, Novell's acquisition of Novell's products of WordPerfect Corp. and Quantum Pro and Microsoft's attempted purchase of Lotus Development did not all emerge as simple, or profitable business transactions.

With expanding system business (consulting), IDC sees a trend for new players to dominate as the best provider of a "platform" for a given portion of the system. Information, while older vendors are not reluctant in supporting it to stay closely with the emerging market. Some examples include Oracle emerging as the platform for database activities, and Microsoft's Windows family of products forming a "de facto standard" for the desktop.

IDC notes the increased interest in the Internet's World Wide Web has led to a growing recognition that Internet and company Internet services are the next wave of disruptive technology. New technologies, such as this, will provide more robust functionality in the Internet and fuel the end evolution of e-commerce activities.

#### Chip Market Up 40% in 1996

Analysts at Dataquest say the worldwide semiconductor market grew 40 percent last year, reaching \$104.7 billion, with all markets posting gains.

Reporting from San Jose, California, United Press International quotes Dataquest officials as saying:  
• Intel Corp. was the leader with revenue of \$13.83 billion for an 8.4 percent market share.

- Followed by NEC at \$11.56 billion.
- Toshiba at \$10.46 billion with \$10.19 billion.
- Hitachi number 4 at \$9.42 billion.
- And Motorola in fifth with \$8.17 billion.

Dataquest says Korean designers' past Samsung posted the biggest percent rise in sales, gaining 73 percent to \$4.34 billion to third place. It was followed by Texas Instruments at \$3.6 billion, Philips at \$3.5 billion, Matsushita at \$3.17 billion and Philips at \$2.94 billion.

The research says the Asia-Pacific region, excluding Japan, posted a major gain in market share because of booming demand for DRAMs (dynamic random access memory) chips. Revenue rose to \$14.7 billion from \$9.8 billion, boosting market share to 12.1 percent from 8.6 percent.

In the North American markets, revenue grew to \$61.38 billion from \$46.11 billion, but market share fell to 59.6 percent from 44.7 percent. Japan's sales increased to \$41.13 billion from \$44.78 billion and market share declined to 39.3 percent from 40.1 percent.

Finally the European market rose to \$43.13 billion from \$41.64 billion and now holds share edge down to 41.4 percent from 39.9 percent.

#### Kodak Launches Digital Camera

Kodak's Kodak DC 144 unveiled a sub-\$1,000 consumer digital camera that offers users a more elegant to maneuver cards.

The Kodak Digital Science DC 144 camera features a 1.4-megapixel sensor lens, automatic focus and exposure controls, and "macro" "macro" and "macro" resolution options. Users have the option of storing images on removable PCMCIA cards or in the camera's 1MB of internal memory.

#### Sea Setz Up Separate Java Unit

Sea Microsystems Inc. has spun off a separate unit to handle Java, the hot new programming language it developed for the Internet. To handle this new division, Sea has chosen Asia Pacific Security provided CEO of Digital Systems Services Corp.

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# Java and HotJava: An Introduction

By Dan LaBella

## Not your average cup of Joe

Java is exciting! It's impressive it has the potential to significantly change the way we think about and approach networked computing. It's introduction

is comparable with the Internet could very well mark the beginning of a new era in computing.

Yes, computing is global and the Internet in particular has widely opened the industry doors to it. No, this stuff

isn't going to cross world prices, not all homes suffering, sure business or even common demand, for that matter. Having said this, Java is not hype. There is a powerful reality behind this new programming language and environment.

Maybe you will be as impressed as I was.

The purpose of this article is to obtain a conceptual overview of Java. Those interested in a more in-depth understanding of Java and Java-related subjects should visit Sun Microsystems' Java website at <http://java.sun.com>. The Java language: A White Paper and The HotJava browser: A White Paper are both available at this site.

## A little ancient history

The core technology of Java is an outgrowth of a computer electronics R&D project started by Sun Microsystems in April, 1991. The goal was to develop advanced software for a variety of networked devices and embedded systems (devices which are attached to and communicating through a network). They needed a small, reliable, portable, distributed, and easy-to-use operating environment. Starting with the C++ language, they tried to extend the compiler, a critical part in making the portable and platform-independent environment they wanted. This approach soon proved too problematic. Fixing the problems they found could best be achieved by developing an entirely new language. They began working on what they then called Oak, which would later be renamed Java.

Java was first used in developing a prototype PDA (personal digital assistant) like device. One was nowhere due to a commercial market, which Apple's Newton later demonstrated. They then applied their Java technology to the desktop box and video-on-demand market, which also didn't pan out for a number of reasons.

By the spring of 1994 it was obvious the Internet and more specifically the World Wide Web was exploding in popularity with the release of the Mosaic browser, the first web browser and graphical interface to the Web. They realized the potential of Java in connection with the Internet, the model of all heterogeneous networks. Their new mission was to supercharge web browsing. They began porting Java to the PC, Mac and Sun platforms and developing a web browser in Java. The result was HotJava. The Java Development and HotJava were formally announced by Sun at Sunworld '95 in May, 1995.

## Java

What is Java? It's a group of technologies. A programming language for developing applications, an archive-

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ture for running these applications and a set of tools to build and compile those same applications. Java encompasses a variety of features which include being portable, any hardware, network, interpreted, dynamic, object-oriented, high-performance, multi-threaded, secure and robust. This allows Java to be technologically neutral code that is dynamically loaded and run on any heterogeneous network. If you don't quite understand what all this gobbledegook means, read on. Let us explain.

It is important to keep in mind that Java's features are determined by the nature of the computing environment in which the software must be deployed. As it stands, this means supporting applications on multiple incompatible hardware architectures, multiple operating system spanning systems and one or more incompatible graphical user interfaces, all within a distributed client-server or browser-server network.

Java allows you to run the same application or program created with Java on any machine you choose as long as a Java interpreter and run-time system have been ported to that same machine. The run-time system and interpreter can even create a program, such as a Web browser like HotJava, or an applet alone on the machine.

To understand how Apple achieves this portability, you must first understand how a program runs on another program's hardware. In the previous Apple program is created in a file called `main.c`. This program is a program in a form called source code. For the program to become an executable, that is a program that can be run on your computer, it must be converted into machine or assembly code. A compiler handles this task. This all sounds simple enough, but the problem is: each hardware platform has its own compilers, and the program will only run on the platform if you use the correct compiler for that specific platform. Computers also cause a number of other headaches for programmers, which I won't discuss at length. With the number of different platforms out there, you can see that compiling and compatibility issues would quickly add up. This also creates some real complications in a heterogeneous network where any kind of machine could be talking at the other end of the connection.

[illegible]

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# V-COM Offers Outstanding Value on Used Computer Products!

Just what exactly happens to all that computer equipment when companies, homes offices and homes decide to upgrade? In some cases the equipment is only about a year old, works great, runs all the software, has a good size hard drive and is plenty fast for the average user for years to come. If you can't stand clutter and ask if they have any used equipment the answer is usually an **ISO WHERE IS IT ALL?**

*"It was like opening Tut's Tomb, a real treasure for the used computer shopper."*

The quest for the elusive computer products brought us to V-COM Computers on the corner of Marine Drive and Kerr in Vancouver. It was like opening Tut's Tomb. A real treasure to the shopper looking for the real market. Systems, monitors, software, modems, scanners, printers, hard drives and the list goes on.

In the computer business for 14 years, V-COM has built quite a booming used business in addition to their new latest, greatest market.

And let's face it, we feel better if we know that technicians have gone through the equipment, tested it and we give a good business evaluation. It's standard to the car business. The biggest used market is in the dealerships.

Now let's talk savings, big savings. For example, last year a new 348MB Hard Disk Drive would sell for about \$429.00. Last month at V-COM, used 348MB Hard Drives were selling for \$49.00. Some of the products are new, that's right, brand new, but the manufacturer has put out a new version and this one is discounted heavily. For some shoppers this is an excellent value.

Products range from an second P50 computer that has a heavy base in all the way to new Pentium motherboards. It takes a little digging sometimes, to find the product that may suit your needs just

to save that load of money it can be well worth it.

*It may take a bit of digging and asking questions yet, well worth it!"*

Something Old and Something New? This is another option in the used market. To find the best value, performance a customer has the option to have some new components as well as used parts to complete the ultimate system upgrade.

V-COM seems to have a good formula of success in selling used merchandise. The dealership can service and support as well as discuss the pros and cons and insurance of any of the products. There is a dedicated sales staff in the used department that has the expertise to evaluate each product.

New products, done products, and used products are marked clearly so I had a

good idea of exactly what I was looking at.

This is a particularly good time to purchase used equipment due to the architecture shift in Pentium. A good used 386-486 is a strong enough computer for most home and home office users or as a personal game system. And a Pentium 75 using the prior version motherboard doesn't exactly make the system a dinosaur. Used equipment is a good deal all the way round and V-COM has an excellent selection of products.

*A Pentium 75 using a prior version motherboard doesn't exactly make it a dinosaur.*

Value is Value and V-COM offers an outstanding value on used computer products!

V-Com is located at the corner of Marine Drive and Kerr in Vancouver.  
3104 St Marine Dr. Ph 432-8818

## V-COM PRODUCT OF THE MONTH

### Nikana CX-100MHz, 15"

**Multi Media**  
64 386/100MHz MMX  
16K Internal Cache  
336K External Cache  
8MB 72 Pin RAM  
ATX Mech 44 w LMB  
5 1/4" Floppy Drive  
15" Multi Tracer Color  
NEC 234MB HDD  
Nikana 161 Extension KB  
16Pin Sound Card  
4X CD-ROM Drive  
Speakers 401 691



Microsoft Windows 95 C-D  
Microsoft Mouse  
Key Patches  
15" SVGA NO Monitor  
Internet Ready High  
Speed 28.8 V34 Fax  
Modem  
3 Year P & L Warranty

**Now available  
for only  
1599.00  
1200.00  
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NotJava is given an object's reference, an URL. If the handler for that protocol is already loaded, it is used. If not, Not Java searches the local system and then the system that is the target of the URL. For the protocol needed to interact with the object, it's then incorporated dynamically. This means you will not need multiple browsers to access data on different servers each with its own proprietary protocol. Also, reader's products will integrate more seamlessly with each other, saving great pains for themselves and their users.

Security is of great importance when dealing with a large and heterogeneous network such as the Internet. When you are downloading, modifying and running fragments of code imported from all over the place there are obvious dangers. NotJava incorporates all the security measures built into Java, which was described earlier. Could a computer virus get through Java's security measures? Only time will tell.

### In Summary

Is Java C++ done right? The joy is still out there is a very new technology, in its early stages of development. Considering Java was only introduced six

months ago, its off to a roaring start. It has already gained widespread acceptance and support throughout the Internet community, and is starting to become the universal standard for transfer of dynamic, extensible content over the Web. An impressive list of companies have signed up to license Java, including Netscape and Microsoft.

A developer conference I recently attended in San Francisco was packed with Java enthusiasts. Who knows what applications will be developed over the next year by these people. It could be used as the principal engine for interaction and behavior of objects in the next version of VRML. It could be used to provide all kinds of stand-alone applications which are retrieved over the network, used and retained. It could be used in any number of innovative ways because of its dynamically extensible and portable nature. Ladies and gentlemen, start your engines... in the innovation league! ☐

**About the Author:** Dan Deliville is a computer consultant and programmer. He can be reached at [ddeliville@direct.ca](mailto:ddeliville@direct.ca)

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pieces of hardware or else he needed other operators. In other case, more time is required to edit the motion picture.

Cost, in desktop systems, would be increased with purchasing a computer setup (hardware & software), transport and training. These costs are inevitably offset by savings in daily operations. Thus, we should take into consideration savings in video editing. Cost went,

they are generally more expensive than computer-aided editing. Most professional desktop systems in virtually half the time required on an analog system, this way they can finish faster in many projects as they normally would. There are various types of desktop editing systems from low end (consumer - non-linear) to high end (professional - linear &

non-linear) systems now readily available. Professional systems may range approximately from \$1000 and up while the Professional systems will range from \$4000 and up. Generally, the consumer models are handled with third party software like Adobe Premiere, Animator Pro, etc. whereas the professional systems are manufactured by our vendor.

Linear versus non-linear? Linear is

editing with tape sources whereas non-linear is the technique of compressing and decompressing video and being able to edit directly from your hard drive. For the consumer user, going non-linear would be advisable. Video users who want to edit the least amount of video editing, being disposal of computer technology must realize the video industry is advancing towards digital video - therefore video users will have to advance along with the technology otherwise they will be left behind.

Manufacturers of non-linear editing systems are varied. Adobe, FAST, Matrox, Pinnacle, to name a few, are some that have non-linear broadcast systems on the market today. These manufacturers are in the "professional" category. Some of the consumer type systems are FAST with the Matrox Live Products. Matrox with the DC-1 and the newly arrived DC-28 and Creative Labs with their VideoMate.

The power of desktop computers for video editing is the ability of the computer to store images. The computer system is able to store in video tapes, a single frame, making desktop video editors to store, retrieve and manipulate thousands of frames, three to four full motion, nearly invisible full image digital video can also be compressed (digitized) and stored.

Where do you start looking for a desktop editing system? One would be to check out your local computer for video magazines, like Videomaker, Desktop Video, HiV Video, etc. Then check out the manufacturers who will have a listing of their distributors/dealers, contact these dealers for a demonstration, evaluation, pricing and some they even have a Web site. You can also talk to people who are using desktop video systems and get their opinions. The basic computer I would suggest to start with would be a full featured multimedia computer (those with top of the line audio and video boards). Those look for a consumer hardware/software bundle editing package that fits your needs. I suggest starting with a consumer type editing system (it will become more familiar with desktop video and their options).

Video editing courses can be found in education facilities like Langston University Film School and even the Winchester School of Art. Once you have the basics, it will not be difficult to be a master of non-linear video editing. □

Video editing courses can be found in education facilities like Langston University Film School and even the Winchester School of Art. Once you have the basics, it will not be difficult to be a master of non-linear video editing. □

About the author: **Shane Seg** is with Commercial Electronics Ltd. She can be reached at (800) 860-3525.



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**Database Development**

# Access for Win 95

By John Warrick

When Microsoft released its first-selling Office 95 suite of business applications in co-mpact with the release of Windows 95, database users had to settle for the old 16 bit version of Access along with a coupon until the upgrade became available. With the news is over and Access for Windows 95 is finally here just in time to be called the "Product of the Year" (1995 that is) by major computer publications. We won't go

This latest version, numbered 1.0 to keep it in synch with the rest of the Office product line, continues Microsoft's strategy of making all aspects of database use and design easier for the new user and veteran alike. Wizards and online helpers guide the user through every aspect from design of the actual data tables to the production of reports and labels.

**Minimum Requirements**



Microsoft continuously runs a beta computer with either the Windows 95 or Windows 95

extremely sophisticated yet remarkably easy to use database product.

Access 95 was released in 1992, within a few years and its presence in the Office suite Access was joined major market share of the database market and is now in 5 million users. Price and marketing may have been the initial factors behind the rapid growth in acceptance of Access but a few more compelling factors that have made it so popular.

16.25M operating system. You must have a minimum of 12 meg of ram memory and 14 to 42 megabytes of disk space. We found these requirements to be very minimal. On a 486-66 with 16 megs of ram we found Access 95 to be acceptable but a little more sluggish



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that we would have liked. On a 140 MHz Pentium with 16 megs we found the performance to be excellent.

In Internet discussion groups the most common complaint about this new version of Access is the frustration that you are wading through mazes as you navigate the Access interface. This complaint, of course, is an odd as Windows stuff. It results from the fact that state-of-the-art software requires state-of-the-art hardware and if you are using older hardware you most definitely will be disappointed with Access 95.

Developers especially need to take this hardware requirements into account. Your application may run along nicely on your personally tuned-up Pentium machine but installed on your client's 140-MHz box of bricks it may not work for an enhancement.

#### Getting Started

Access 95 makes it easy to get started. Click on File/New and you will be presented with a tabbed dialog box which allows you to start building your database from scratch by clicking on the Blank Database icon. If you click the Database Tab you can select from any of 23 pre-built database applications covering many of the most common database tasks.

These pre-built applications include an Address Book, Contact Manager, Book, Memo or Video Collection, Event Management, Membership Maintenance, Inventory Control, Order Entry, Ledger, Wine List, Asset Tracking, Resource Scheduling, Recipes, Document, Homehold Inventory, Petcare Library, Time and Billing, Students and Classes, Wine List, Worklist and Service Call Management.

When you make your selection, Access Wizard starts working away and in a few minutes after answering a few questions, you will have a complete database application including properly formatted data tables, menus, reports and printing labels.

These Wizard-built applications can be modified to learning tools and freely customized to suit your needs.

#### Using Access with Visual Basic

If you are a Visual Basic programmer you will find Access to be the ultimate VB utility.

The Access .mdb file format is the native data file format for Visual Basic databases. We keep Access open at one window and Visual Basic at another. While programming we often switch from our VB screen to the Access screen so we can inspect the results of our latest SQL query or experiment.

Access also has a wonderful query design grid that makes it almost trivial to create complex queries. While in query design mode you can select View

SQL to open a text window of perfectly formatted SQL. This can be cut and pasted directly into your Visual Basic code, saved as a QueryDef or used as the Source of a Data Control.

The easiest way to learn SQL is to try to write it from memory. If it doesn't work, switch to Access and build the query using the design grid and view the resultant SQL code to see where you went wrong.

Because of the massive overhead of Access we prefer to write our front ends using Visual Basic so that in a small application there may be just two files, an .mdb file for the program and an .mdb file for the data.

#### Who is Access 95 for?

Access for Windows 95 seems to be aimed at a pretty wide target. It is easy enough for the home user to build a

hobby database and powerful enough to manage the data needs of a small business. Access is optimized for the Windows 95 environment on a Pentium class machine. No programming is required to build Access databases and can be ignored completely by the user/owner.

Common wisdom has it that Access is not a good solution where there will be 25 or more simultaneous users, but it's common on page 10.

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Continued from page 10

in low-demand environments. Access is an excellent solution. The new database engine which Access uses is much more robust than previous versions and appears to have better data integrity.

Access is a very good choice for people interested in database development but relatively new to the field. It shares the visual motif of modern Windows Development tools and supports the Microsoft Visual Basic for Applications programming language. This language is a good introduction to computer programming in general and that adds another advantage of being built into other Microsoft Office applications.

### The Competition

Windows database products are relatively new. They miss the last of the major applications to be ported to the Windows environment and have only recently begun to fully utilize the two-dimensional model.

Three products appear to be competing on the desktop database market. At one end there is Borland's Delphi and at the other end there is IBM's Lotus Approach with Microsoft's Access somewhere in the middle.

Borland Delphi is not strictly a database program but it is a Windows Win-

dows development tool with very extensive database capabilities. It includes the Borland Database Engine which is the same engine underlying Paradox 5. Delphi allows you to create brilliantly fast Windows applications and database client/server applications but all this power comes at the price of a much steeper learning curve.

Lotus Approach on the other hand is generally considered to be the champion in the case of use category. It is really one of those programs you don't have to open the manual to use. It lacks the flexibility of Access and, at least in the current version, offers little opportunity to dig deeper into the Secrets of the Database Masters. We have heard that the Windows 95 upgrade will contain a Visual Basic-like programming language for those who want to delve but we haven't seen this yet.

Access provides a combination of ease of use and a depth of power. It is a program you can grow with and if you like this sort of thing it will grow on you. ☐

About the author: John Farrow is a consultant and database applications developer at Electronic DataGraphics. 1488 Commercial Drive, Vancouver B.C. V5L 1X9 Tel: 213-9339 E-mail: John.Farrow@WestLink.bc.ca

# ASAP does a lot with less

By Allen Zarem

## Product: ASAP

Publisher: Software Publishing

Company

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Computers get more powerful—software adds more features—users get more confused—software adds more features to make it easier for users, requiring more powerful hardware, allowing software to add more.

Sound familiar? Are you really using all the advanced features of your word processor, spreadsheet, page layout, or presentation software? Maybe yes—but for most of us, no. Hence, we use the advanced features of these sophisticated products about as often as we drive at 180 km/h.

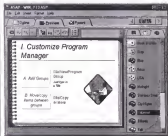
One such product that helps break the trend is Software Publishing's ASAP. It's from a company whose Harvard Graphics defined the field of presentation graphics, beginning a decade ago. But trying to do any kind of graphics in the non-graphics DOS environment was inherently complicated. Newer products

for the Mac and Windows environments stole away much of the market—and took advantage of the relative ease of working in these graphical environments to add features and complexity.

Early desktop versions slides, integrated sound and video, complex backgrounds—all marks of a flashy presentation require fancy hardware. The last couple of presentations I made using Lotus Freelance resulted in 4 MB data files—I can't simply copy these onto a floppy disk, put it into my pocket, and walk in to give my speech.

But many, if not most presentation accompany speeches that are written or modified at the last possible moment—and the presentation graphics need to be created as easily as possible. Hence ASAP, an multimedia basic just as advanced presentation, that can be created in a few moments from an outline from your word processor.

ASAP, in fact, adds itself as a toolbar button to Word—write an outline of your speech, click the button, and the outline becomes the text of your presentation. Select one of 15 outline schemes and your choice of 15 overall designs, then leaf through the slides, clicking the next







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## Desktop Publishing Tips:

# Corel Photo-Paint 5.0

By David Lee

**W**e're going to use CorelDRAW and Photo-Paint to create a transparent drop shadow effect.

First, open CorelDRAW. Create a new art image in black and white, for example, a box of text.

Save this image, then convert it to a TIFF format using File, Export. For Colors, select 256 Shades of Gray. Choose a device and directory and name the file. Leave the original image in the CorelDRAW window. Don't close CorelDRAW.

Open Photo-Paint, and load the image using File, Open. Select the drive, directory and filename. Click OK. (You may be able to load the file without converting it. If so, after choosing the file name and clicking OK, you will see the image into Binary Editing View. Select 256 shades of Gray in the Colors options.)

Display the Fill palette. Click the Uniform color button and select a middle gray color. Select the Fill tool

and click in the black area of the image so they are changed to gray. This image will become the drop shadow.

Click Effects, Fancy, Gaussian Blur. Choose a Radius value—try 15. Click Preview to check the effect and change the radius if you want. When ready, click OK.

Click Image, Convert to Black and White. Select a Mottled. Save this again as a TIFF file. (The image must be a monochrome bitmap so the CorelDRAW will treat it as transparent. Gray-scale does not work.)

Activate the CorelDRAW window and load this file into the original CorelDRAW file using File, Import. Size and arrange the original image with the TIFF image behind as a shadow. Click Arrange, Order to move the objects Forward in Back.

Detach the original object. Colour the TIFF image by selecting an outline colour (click the right mouse button on a colour in the colour palette). The fill should be set

to No Fill (click the left mouse button on the X in the colour palette).

Create a coloured or patterned background behind both images. The background will show under the shadow.

About the author: David Lee is a freelance graphic artist and desktop publisher who provides training and consultation in CorelDRAW, Corel PHOTO-PAINT, Corel FONTIMAKER, Harvard Graphics, PageMaker and WordPerfect. If you are using Corel PHOTO-PAINT, Corel FONTIMAKER, or Corel PHOTO-PAINT, call for a free information sheet. Publishing tips: Subscriptions: (604) 737-9928.

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## Fujitsu Tech Employees' English

Saying it is getting up to get Internet up, Japanese computer giant Fujitsu Ltd. is set to test 30,000 of its 50,000 employees on their English ability, and not even Fujitsu President Tadatoshi Sekizawa will escape the testing.

Also, thousands are to be sent for courses to improve their knowledge of what the Agency France-Press International News Service says "is increasingly becoming the global language."

A Fujitsu official said the Nissan Rental business drive, "in the future, proficiency in English will be added to our entry standards."

The French wire service says Sekizawa and some 30,000 of his employees will start taking the Test of English for International Communication exam in mid-February. The firm also will send 3,000 selected employees for a course in English, which some Japanese find difficult to crack despite its status as the firm's foreign language for students.

"Japanese struggle between the pronunciation and system is completely different from their own language," AFP comments. "L and R are particularly difficult letters and students complain they have a constant struggle telling the difference."

However, Sekizawa said the widespread use of the Internet means the company now could easily gather information, check and conduct negotiations with business partners "if we have good knowledge of English."

AFP says the number of Jai users in Japan recently has reached 3 million, but difficulty in mastering English has been cited as one of the reasons for the limited Internet input from Japanese users.

## Don Jore Holds Prodigy Patent?

San Microsystems Inc. may have to pay royalties in licensing fees if its much-hyped Jore Internet programming tool is found to infringe upon a Prodigy Services Co. patent, reports Interactive Daily.

If Prodigy's claim holds, it may "mean that anyone who attempts to make, use or sell Jore runs afoul of [Prodigy's] patent," Robert Korn, a former counsel at Prodigy and the current vice president of U.S. Interactive, told the trade publication.

The news also could substantially boost Prodigy's asking price, two former Prodigy officials told Interactive Daily. Rumors are ripe that Intel and Sun are considering selling the online service.

Representatives for Prodigy and San Microsystems declined to comment.

## Compaq Ends Patent Against Intel

Ending a patent that started in 1994, Compaq Computer Corp. has decided to resign Intel Corp.'s "Intel Inside" marketing campaign, part of a broad patent cross-licensing deal reached last week by the companies. Financial terms were not disclosed.

The companies' patent agreement allows them to freely share technology advances.

AP notes that while Compaq is the largest customer of Intel's microprocessors, the firm dropped out of the "Intel Inside" program in 1994 and Compaq CEO Eckhard Pfeiffer publicly criticized the promotion for causing customers to think that any PC with an Intel chip is his master.

## Net Interests Drive Harrier

A computer magazine reports its latest reader survey suggests a driving force behind the sales of computers, peripherals, and software is an interest in accessing the Internet.

CMAP's NetGuide, which focuses on online activities, also says it has lost more than half of its subscribers — 98 percent of whom are expert, advanced, or intermediate computer users — may well spend nearly \$8,000 on computer equipment and software this year.

"The people who are using the net, the surfer users, are not only driving the online revolution, they're also driving the driving force behind the entire PC industry," says NetGuide publisher Rick Haggerty in a statement from Manhattan, New York.

The research, conducted by Simmons Research, found 34 percent of NetGuide's subscribers plan to buy a new computer in 1994, spending an average of \$1,200 on a new PC, \$1,511 on peripherals (such as CD-ROM drives, speakers, monitors, printers, modems, and storage devices) and another \$1,009 on software.

The poll also found the magazine's average subscriber:

- Has been using computers for an average of 5.6 years at home and 3.7 years at work.
- Owns an average of 2.4 computers at home.
- Spends, each week, an average of 2.8 hours online, including 0.4 hours at home and another 0.4 hours at work.

Also, 10 percent of the reader base (not own home pages in the Internet's World Wide Web and 30 percent work at companies that have a Web site running or in planning or development).

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# Fujitsu keyboard for Windows 95

By David Anderson

The Fujitsu F1084735 keyboard is another entry into the world of Windows 95-ready input devices now appearing in computer stores. This

is a well-made unit with the standard 101-key format, inverted-T cursor keys, function keys along the top edge, and Win, space-saving side prisms. The feel

of the keys is firm, spry, and quiet, with no click or "rattle" whatsoever. The keyboard sits on



four rubber pads and there are fold-out elevators where you would expect to find them.

There are three Windows 95 keys added to the standard configuration of keys in a quality type AT keyboard. There are two Shift/Menu keys on either end of the space bar, in between the Command and the Alt keys. These keys give instant access to the Start menu at any time, and make mouseless users from Windows very easy. To get on the Start/Menu option, just press the Shift/Menu key, then the letter "Q". The next three choices are Start to quit, "E" to return, or "W" to return to DOS mode. The other Windows 95 key sits in between the Right Shift menu key and the right Control key. Naturally, this key opens the Open/Run/Search/Properties menu of any highlighted folder. It opens the Run menu for any highlighted executable file. At other times this key opens the "What's this?" window. Most often, this key would be used to get to the Properties sheet for any given file or folder or drive.

In general, the keyboard does everything a keyboard needs to do in terms of a solid feel and just operation. The Windows 95 key keys do indeed save time and effort, particularly with moving Windows or working in DOS. There is nothing ready or "gimmicky" about this unit—it is straightforward and functional. For the price, this is a sensible replacement for a tired, worn-out keyboard, especially if the operating system is Windows 95. □

About the author: David Anderson is Vancouver elementary teacher parent of two children. He can be reached by e-mail: [computer\\_player@msnlink.bc.ca](mailto:computer_player@msnlink.bc.ca)

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The computer press, creation of many businesses, has been producing that companies would result in a paperless office<sup>®</sup>. In actual, it seems that computerized offices, if anything, produce more paper documents than previously. Twenty years ago, pre-computer and pre-photocopiers, offices when circulated memos—a single copy that made its way around the office, with each reader marking it.

Now, with photocopiers common, everyone gets a copy. Or with computer databases and mail merge, everyone can get a customized copy. (Alan Zeman—you may already have won 10 million dollars!)

Some big businesses have begun steps to take control of the deluge of paper. A few years ago, for example, MasterCard USA announced that they were going to be scanning all their bank records, converting them to computer-readable digital data. The technology to do this, however, was too expensive for most home or small office users.

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Despite the lack, with its small size and affordable price, the ImageCenter provides a welcome collection of features for many home offices and small businesses.

[illegible]

The *2i Office*, from Ontario's *Willamette*, is another rugged, more ambitious product. It includes the P-2 Page Reader (also available from Microtek) about half the size and weight of Brother's model. At 1 1/2 lbs (24 in) it could be a portable addition to a portable computer, however, it great up some capabilities— it scans at a maximum of 300 dpi and 16 gray-scales. The lower resolution is not a big loss for scanned text, but appearance of scanned photos is clearly inferior to the Brother product. As well, only a single page can be fed through it at a time, making it more restricted in some multipage documents.

While the benefits from easy access to the PC's personal port, and shipping new basic PC software (in this case, Corel's DrawPage Limited Edition), the real strength of this product is the inclusion of PageKeeper software. This allows users to manage documents, for easy organization on PageKeeper's Cabinet. This provides a virtual file cabinet, allowing users to store documents in folders, for easy organization and retrieval. A Quick Page provides instant access to copying, moving, Email, and searching documents.

As well, however, the E-Z Office package includes a 28 Kb internal fax modem (using the standard Kenwood chipset) and software. That allows the full range of modem data and fax capabilities, including voice capabilities. It can be set to answer phone calls, automatically recognizing voice, data, or fax calls. Along with the accompanying software, (Clayman House no. 336 for Windows) it provides answering machine functions including multiple mailboxes and speeddials. Faxes and voice messages can be forwarded to another location when you are traveling. Windows 95 modem drivers are included.

Since many available customers already have fax-modems, it might seem like this would limit the potential market—Wi Lowenthal, however, believes that most users have 14.4 or slower modems, and that the inclusion of a 24 k high-speed modem, along with microphones and noise capabilities will prove a real draw. Certainly, the combination of features will allow users to directly ad-



computer and printer to get a full-hour burst, says the ad office.

While producing somewhat lower-quality music than the Flarebox products, the PageBox software and modern hardware could prove a valuable addition to many users. As such, while the included modem can only be used in a desktop computer, the owner would easily be taken on the road. Combining the telephone hardware and software with the warranty-free, reliable capabilities, the package merits a large number of small office needs in a single box.

Most of these products will replace a higher quality, flatbed scanner for anyone needing to often scan graphics—look elsewhere, perhaps at HP's new gray-scale ScanJet 4P or Saturn 4P models. But for home offices or small businesses looking to add basic scanning/lighting, either a work-a-lack, web-based providing more gray-scale, higher resolution, and multi-page support, and the E-Z Office providing better portability, document management software, and an included 3D scanner with a wide range of features. ☐

**About the author:** *Alan James* is a teacher and an associate editor of *Computer Player*; he can be reached via e-mail at [alan\\_james@computerplayer.com](mailto:alan_james@computerplayer.com).

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**Table 1** | *St. John's wort* drug interactions

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## Yes, I will back-up my drive... tomorrow

By Rick McLaughlin

I'd like to turn off the new year with a response to an article I wrote. Although I received overwhelmingly good responses, there were a few people who felt that they had to voice their rude remarks.

If you want to give your views as expressed in an article then write or e-mail the Editor. In the mean time, I'll carry on writing articles on companies that give busy services, have had problems, rip off consumers and, of course, try to help out the many people that would advise on products and service. I feel it's my responsibility to expose the fraudsters and to inform the public. I would like to thank those who sent me the 32 e-mail messages and the countless phone calls. I received it gives me a good feeling knowing that I have helped someone with a problem.

### On 1998 resolution: Back-up my data

Well the holidays are over and it's time to start considering some of those New Year's resolutions that we all make and rarely keep. There is one resolution that I would like all of you to really try to keep as a good Canadian. It is, in plain and simple terms, "Back-up your computer files."

Over the years, I have had to deal with many people who have lost their data due to a computer problem - most often a hard drive crash. Needless to say, this kind of situation is extremely nerve-racking and in some cases, very expensive. It doesn't have to be that way. With all the methods available to us today for backing up data, there is no excuse to lose all your data other than personal laziness.

### What is a Backup?

A backup is the storage of data (normally in a compressed format) that is taken from your hard drive(s) and stored on one of several types of media. All backup material has a restore capability. There are several different ways to do a backup. Let's go over them and try to find the one that is best suited to your needs.

There are three ways you can use to maintain your backup routines. Do full backups only once the weekend (usually Friday evening) and incremental backups Monday-Thursday (try to do a full or new backup each week—it makes both backups and restores faster).

Consider the relative value of everyone's data. Some computers require nightly backups, while others require backups every other day. Establish groups with different priorities by scheduling a different backup routine for each group. Start backups as soon as possible in the evening. (Most people leave by 5 PM.) Use automated tape libraries (loaders/unloaders/jukeboxes) to extend capacity backups.

Back up only documents and preferences. (However, I recommend backing up all files—it won't make the backup go faster, but it sure makes the restore go a lot faster.) Create and maintain a custom selection to ignore gives the trash folder, and other unwanted files. These types of files are not important data and if anything does happen to your hard drive, you can always re-install the programs. Remember, these programs do not create useful data files. If possible, don't use encryption for either the backup media or the backup programs. Encryption requires extra processing and slows the backup. Use hard-ware compression (if available), else software compression slows down the backup. Not only are files copied faster, but also more data can fit on a tape.

Hardware solutions fall into three categories:

- 1.) Drives for network or server backup
- 2.) Drives for individual backup
- 3.) Multi-purpose drives for a variety of uses

This section discusses the relative merits of all the options and compares their advantages and disadvantages.

**Floppy Disk Drives:** Because floppy disk drives come built-in with most com-

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pattern sold, it is not surprising that floppy disks are popular for personal computer backups. Their performance and capacity make them ideal for backing up the typical personal computer's 40000 to 300000 hard disk. Even with highly optimized backup software backing up only your most critical 40000 of files, you have to spend three to four hours inserting and removing floppy disks. If you have more data than spare time, you should choose one of the other inexpensive storage options better suited for backup and archiving.

**Data Cassette Drives:** Data cassette drives from audio cassette technology and use the data equivalent of audio tapes. Primarily based on a TEAC mechanism, these drives use tapes ranging in capacity from 150000 to 600000.

**DC1000 Drives:** The DC1000 was a common mechanism used in early tape drives with modest capacity and performance. Manufacturers have improved upon the original design, increasing available capacity up to 3GB or more, raising performance and lowering price as the new generation of DC1000 drives.

**DAT Drives:** Rapid advances in the price of digital audio tape drives have made them popular for individual backup as well as for network and server backup. They are a particularly good choice for users with large hard disks.

**Removable Cartridge Drives:** Many individuals do their backups with removable cartridge drives (such as Zip, Jaz, SyQuest, and magneto-optical) which are not dedicated solely to backup. These drives are described next under "Multi-purpose Drives."

**Capacity:** In evaluating hardware, especially tape drives and particularly compression drives, the rated capacity should usually be viewed as the theoretical maximum. This capacity achieved in day to day use can often significantly less. The actual amount of data that will fit on a given medium will vary due to many factors. For instance, a tape's capacity can be greatly influenced by the relative speeds of the backup computer and the tape drive. Another factor is compression, a feature of many drives and software which reduces the size of the data being backed up. Theoretical maximum capacity representations refer to the amount of data before it gets compressed by a tape drive with hardware compression capability, and they often assume generous compression rates.

**Network or Server Backup Hardware:** Backing up servers or entire networks of computers requires hardware that can move extremely large quantities of data: hundreds of megabytes, even gigabytes over a relatively short period of time—overnight or weekend. Fortunately, many different reliable, high-capacity,

high-performance backup drives are available.

**DAT Drives:** Four millimeter Digital Audio Tape drives have become very popular backup devices because of their low cost, quick speed, and low media cost relative to the high capacity. The drives use a helical scan method to store data on thin digital audio tapes, though special data grade tapes must be used. Tapes written to by a 4mm DAT drive can usually be read by DAT drives from another manufacturer provided they use the same format and compression features, which is a useful compatibility consideration. Many vendors offer several types of DAT drives varying in capacity from 1.1 to 4GB, while models with compression offer up to 4GB of storage. In recent years DAT drives have become an industry standard for backup drives by combining reliability, high capacity and low cost.

**Eighty-four Tape Drives:** Like DAT drives, Eighty-four tape drives are helical scan devices that can store large amounts of data on a single tape. Rather than digital audio tapes, these drives use the data version of the tape good in film video equipment. These drives and media are also popular in workstations and mainframe computers.

**DC6000 Tape Drives:** Unlike the DAT and film tape mechanisms borrowed from other industries, the DC6000 mechanism is a more traditional backup tape technology. DC6000 drives store data linearly on such tape. As a result, data is stored less densely than on DAT or film tapes. DC6000 drives range in capacity from 60MB to 1GB, with compression drives potentially doubling capacity up to 10GB.

**Digital Linear Tape (DLT) drives** are among the fastest tape drives available. Their Quantum mechanisms offer exceptional performance and capacity when used under optimal conditions. DLT drive models are available in five capacities: 2 GB, 4 GB, 8 GB, 16GB, and 20GB, with compression drives potentially doubling capacity up to 40GB. To achieve its high speed and large capacity, a DLT drive requires a high performance environment. The most important performance factor is the speed of the backup source through the data pipe. If the source is slow, the DLT drive must frequently stop to reposition the tape while waiting for additional data. If the drive repositions too often, performance decreases dramatically.

**Autoloaders** (The big main backup option). Several manufacturers now offer autoloaders, which use one or more drives (typically tape drives discussed above) integrated with a mechanical loader. The loader moves media between the drive and a magazine containing sev-

and media, multiplying the available storage capacity several times over.

**Like multiple-disc audio:** CD changers which automatically play one CD after another, extending your listening time, introduce a new dimension of unattended backup operation. When used with appropriate backup software, autochangers allow multiple storage on backup cartridges to be implemented in the absence of a person to change media.

**Individual Backup Hardware:** Whereas network and server backup often requires extremely high-capacity, high-performance backup hardware, individual backup places more importance on the cost of the hardware solution, hence the popularity of floppy disks.

**Multi-purpose Hardware:** The following drives are primarily used for archiving, data exchange, and long-term storage and are used only occasionally for backup. They usually are more expensive or require much more expensive media than dedicated backup devices such as tape drives. However, if you need one of these drives for other purposes, they can do double duty as part of a backup system.

**Removable Cartridge Driver:** Zip, Jet, SoftQuest, and Removax drives are removable cartridges that approach hard disks in performance. Because they are random access devices, you can use them as random backup-removable volumes or as storage devices for backup and archiving.

**Hard Disks and Servers:** Using hard disks or hard disks installed on servers for backup is almost always the most expensive backup solution, often a potentially high-performance one. Keep in mind that hard users whose backup demands surpass floppy capabilities need a backup device with capacity equal to or greater than their hard disk size. Therefore, a hard disk used for backup

must be at least as large as the one used for normal use.

Note: Using hard disks as secondary storage devices usually makes sense only when special requirements to guard against hardware failures call for technologies like disk mirroring. With disk mirroring, instead of storing information on a single hard disk, you use a second hard disk to duplicate data. If one hard disk fails, mirroring can continue on the other one. Disk mirroring is not a replacement for backup because it only provides immediate protection against disk failure, not against accidental deletion, data corruption, virus, theft, or natural disaster.

**Magnetic-Optical Drives:** Unlike disk drives which use a magnetic coating to store data, magneto-optical (MO) drives use light to store data on a nonvolatile optical disk. For most of these machines, writing information onto the disk requires three passes over the disk, whereas reads require only one. This results in asymmetrical performance for applications like backup, backup is slow but removal of information (particularly of specific files) can be fast. Their high capacity (relative to other removable cartridge drives) and flexible nature make MO drives a good choice for users with multiple tasks.

**CD-R Drives:** Removable compact disc drives act as both to store and retrieve data on a removable, optical disc. Data stored on these discs cannot be erased, so these drives tend toward archiving use rather than backup. CD-R, discs, like CD-ROM drives read audio compact discs, are durable and long-lived, making them ideally suited to archiving. CD-R drives require special software, as they are not directly supported by popular operating systems. Unlike MO and other removable cartridge drives, CD-R drives cannot be used like hard disks or floppy disks.

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I can't over emphasize the need to backup your data. It's always thought of it as an irritatingly boring job on top of a real bad time waster. Now the

whole of doing that is pretty darn fun, but if it ever does happen... baby, it's gonna hurt like hell!

Remember, it's not if your hard drive fails, it's **WHEN!**

Well, that's a wrap for this month. Maybe to see you all at our booth at COMDEX this year. Until then,

Happy Computing. Q

**About the author:** Rick McLaughlin is a leading computer consultant from New Westminster and can be reached at (604) 321-4431 or e-mail at [rick\\_mclaughlin@msl.com](mailto:rick_mclaughlin@msl.com) to us.

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# Non-Residents Can Be Taxable In Canada

By Richard K. Aron

**T**his month I would like to deal with the issue of taxation of non-residents on Canadian source rental income and capital gains and tax situations where people who have long-held possessions but do not reside in Canada are considered resident for tax purposes.

## Rental Income and Capital Gains Earned by Non-Resident Landlords

Non-residents holding property in Canada are taxable on the income from that property. This may be determined in one of two ways. The first is by withholding tax of 25% of the gross amount of rent without the deduction of any expenses. This is somewhat onerous in the actual tax may well be less if expenses are deducted.

There is an alternative method which allows for expenses. If a non-resident files an income tax return and reports his or her rental income, he or she may deduct the expenses such as mortgage interest, property taxes, repairs and maintenance, capital cost allowance, etc. to arrive at the net income. While a non-resident taxpayer will not be allowed to use any of the normal personal tax credits that a resident taxpayer can, the tax will be calculated on the net income in the normal manner. The tax is then calculated and remitted to Revenue Canada on filing, taking account of any tax withheld from payments to the non-resident.

This method is optional and can only be used if a 51 personal income tax return is filed within two years from the end of the year in which the rental was received. This filing does not change the requirement of the Canadian resident paying to the non-resident to withhold 25% of the rent and remitting it to Revenue Canada. The withholding may be avoided or reduced if a non-resident has an agent in Canada and the non-resident has filed an NR4 indicating that he or she will file a T1 within six months of the end of the taxation year. The NR4 must be filed on or before January 1st of the taxation year or before January 1st of the taxation year or before the first payment of non-resident tax is due. If there is an agent, then the agent may withhold based on the estimated net income as opposed to gross. However, a person acting as an agent should be cautious to be or to also may be held liable for the amount not withheld if the tax return is not filed and the taxes not remitted.

When the non-resident disposes of the property, he or she will be subject to

capital gains tax on the property. If capital cost allowance has been claimed and the property is sold for an amount in excess of the estimated capital cost allowance (depreciated value), then the remainder will be taxed as income.

Revenue Canada has the concern that a non-resident may sell his property and receive the funds and never file a return or pay the tax. Consequently any person who purchases real property from a non-resident is required to withhold 13 1/4% of the purchase price and pay to Revenue Canada against the amount of the non-resident vendor's liability. This may be avoided if the vendor has reported the sale to Revenue Canada and has either paid an amount equal to 33 1/3% of the estimated capital gain or has provided security for payment of the tax liability. If the sale is not reported in advance of the transaction, the non-resident vendor is required to report it within 10 days after the sale. This is done by way of a form T1062 which may be obtained from a Revenue Canada office. Although the T1062 is filed and a tax payment is made, the vendor must still file a Canadian income tax return after the end of the year to report his or her taxable income and the tax due. This return will then receive a refund or will be required to pay the balance owing by April 1990.

Some non-residents may be exempt under an International Tax Treaty. However, you should consult a Chartered Accountant to determine whether this applies to you and is any event, to determine the best way to plan the sale and legally minimize the taxes paid and the amount withheld.

## You May Be a Canadian Resident and Not Know It

Reversing taxation of rental income for non-resident's leads me to raise the issue of Canadian tax residency. The tax rules often result in individuals being resident for tax purposes although they do not reside in Canada. These individuals who believe they are not taxable may be "taxable in fact" or "deemed residents." There is a distinction between the two. In either case, an individual would be subject to Canadian tax on his or her worldwide income.

With respect to deemed residents I am not going to deal with individuals who are employed abroad or as officials or gainful employment. Rather I draw your attention to the rules concerning someone in Canada. You are a so-

journer if you spend periods totaling 183 days or more in a year. As such, you are deemed to be a resident of Canada. If you are a deemed resident, then you must file a Canadian tax return on which you will report your world-wide income for the year. In the case of an immigrant who arrives 180 days before the year end, the immigrant would not be deemed resident for the same year. Rather, the immigrant would be resident from the date of arrival to the end of the year. Seasoners are those who would not otherwise be resident in Canada except for the fact they have spent 183 days or more in the country, not necessarily on a continuous basis.

"Resident in fact" may imply individuals who assume they will not be resident because they were here for less than 183 days. Although there is no specific law defining a "resident in fact" there are some guidelines:

1. You are a Canadian resident if you reside primarily in Canada.
2. You may be a resident in fact if you live elsewhere for most of the year but you maintain ties here such as:
  - a) a family
  - b) a home
  - c) personal property such as a car, furniture, bank accounts
  - d) club memberships
  - e) other indicators that you are resident

3. If you are a resident who leaves the less than two years, Revenue Canada will assume that you are a resident unless you can prove that you did not intend to return to Canada at the time you left.

If you do not live in Canada but are a resident in fact, you are liable for tax on your worldwide income. You may receive a tax credit for taxes paid to a foreign country as business or employment income and some credit for other income. If you are a resident in fact, you must file a tax return for the province in which you resided at December 31st.

There may be many readers or families of readers who have as-

sumed they were not resident because most of their time was spent out of the country. However, if you have moved your family here and could hold true that you'd rather not maintain an apartment or house in Canada, then you may well be a resident in fact.

If you are concerned that you or a family member who you believed to be non-resident, may be under a deemed resident or a resident in fact, I strongly urge you to consult a Chartered Accountant to determine what your situation is and how to deal with it. Don't wait for a Revenue Canada auditor to knock at your door.

This column has not dealt with all of the issues arising with rental income for non-residents or all of the issues dealing with "deemed residents" and "residents in fact". This can be a very complex area with many traps for the unwary. If you think these matters may affect you or a member of your family, I urge you to seek the advice of a Chartered Accountant as soon as possible. □

About the author: Richard K. Aron, FCA, is with Aron Gaudin Chartered Accountants. He can be reached at (604) 734-4371 or fax (604) 734-9270.

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# The strange (but true) life of DTP in 1995

By Gordon Prentiss

I have been observed by several people that we don't see things as they are - we see things as we are. And so it is for our understanding of the evolution/transition of the business of desktop publishing (DTP). Here are some observations - with a dash of tongue-in-cheek - from the viewpoint of one who began their career during the days when typesetting was done by setting molten lead in brass cases (1971?). Heaven forbid you should ask for text to be created in a year that was not available from a shop's running costs.

## The brief (secret) history of DTP

The birth of desktop publishing was an event that evoked up cheering and just publishing, but your work. Its history is about to repeat.

In 1984, Apple Computer, in trying to find a marketing edge that would allow them to sell computers against IBM, brought to market a computer system which capitalised on a key, revolution-

ary concept that the Xerox Corporation didn't realise that they had discovered. Xerox, several years earlier, had developed a product called the Xerox Star publishing system, it was large (filled an average office) and expensive (\$105,000 in 1984 dollars). Essentially it simply integrated a computer, black and white video display, workstation called a mouse, and a laser printer to produce original documents. The system used as a interface that made use of a windowing, office environment analogy called a "desktop" which any Apple Mac computer user today would readily recognise. The concept that Xerox didn't notice was that managers who depended on information needed to process and publish it themselves - preferably on their desktop. They needed to control the publishing of information. But because managers were not interested in learning basic programming codes - but was the responsibility of MIS departments. Apple's huge marketing (IBM) systems. Apple simply thought that a computer that was easy to use and that mimicked the familiar tools typically

found in an office should be well received and then provide a kind of Trojan horse with which they could sell into corporate America. Apple's explanation of Xerox's concept coupled with the PostScript language introduced in 1985 resulted not only in a revolution in corporate publishing, but the entire graphic arts industry. It even (some feel) resulted in a political revolution. The breakup of the Soviet Union a few years later. Why? Because the infrastructure of the Soviet system only worked if access to and the publishing of information could be controlled by a single central authority - the government - somewhat like the MIS departments of the old corporate world. With a DTP system and a few machines, any person could receive and publish information themselves. Now think, what government today exists on a foundation of control, controlled access and distribution of information? Well, they serve over a billion use. And in 1995, you don't even need for paper, for instance, or even a laser printer in (possibly) achieves the same result that occurred in the Soviet Union.

A few milestone events of '95 - or the future isn't what it used to be.

First a brief story. On New Year's Eve, December 31, 1995, many people around the world will celebrate the turn of the millennium - the change from the 20th to the 21st Century. Unfortunately their celebrations will occur one year too soon, since the event doesn't actually begin until January 1, 2001. On the other hand, you could say that the turn of centuries has already happened - because a virtual event made while revising our calendar during the Middle Ages effectively meant that Christ was born between four and seven B.C. (before Christ) - strange, isn't it, isn't a seemingly simple event (like counting years, adding one after the other) can evolve, over time, in a very peculiar, even nonsensical fashion, to produce the situation and effects that today, we so easily accept as normal.

- We marked the 10th Anniversary of the revolution of desktop publishing. In January, 1985, it was little more than an idea. Today almost all publishing of printed documents - newspapers, magazines, advertising is done "from the desktop." It has become the prepress standard.

- Windows '95 was introduced - while some wags described as the one billion dollar introduction of a few years old technology layered onto a 50-year old platform. "These who do not know the past are condemned to repeat it."

- In 1995 everyone learned the word "paradigm" - that just as quickly used to avoid using it.

- Photochrome halftoning was still working on the coast - suffering from a severe lack of trade custom, technological support, and brand awareness. Along with other benefits, this potentially revolutionary technology allows low resolution images to appear from their higher resolution (read: from their higher profit margins) in terms of image detail and quality. Low resolution images are both easier to manufacture and more affordable. It is interesting to note that it is actually a reintroduction of processes initially popularized by M.S. Barlett of Cambridge University in 1955(!). It's also kind of interesting that some of the problems that it was fixed with when it was being it in 1971 are still there today - it's just that the process I dealt with that was understandable given the state of technology at the time.

- Pantone Inc. introduced the Hexachrome as colour printing. Judging by all the brochures that I've seen, by both Pantone and other companies who are using it - you can now finally achieve more colour effects on expensive projects - if your prepress service provider wants to do whatever proofing system they're currently using and invests in the only one that is Pantone's approved. I think I'll stay with the old fashioned 5 colour process that provides extended colour gamut for a closer match to colours not within the range of normal CMYK printing. It's been around for at least 30 years that I know of - and probably longer. An extra benefit of the old workhorse is that on a six colour press you will have an ink not available for a variable plate.

- Prepress became service bureau, prepress shops became service bureaus, and with the '95 introductions by Postscript of their dry, process-on-film. This technology aimed at the non-trade market - ad agencies will finally be able to become service bureaus.

- Service bureaus survived their customer backlash as wonder.

- 1995 saw the real public introduction of the Internet, a technology/system which effectively does away with the need for the printed "talk on paper" document while carrying information. As a result it was the only technology that managed to generate more ink on paper than the launch of Windows '95. The Internet has reversed the paradigm claim. I said that word that the publishing industry has been following since

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Gutenberg, in 1436, made use of an even older Chinese idea. The printing press, I used it again if you publish, then you distribute because instead of you distribute (with the manuscript) then you publish (on the manuscript) and on this system - video display or print! One possible result is that, in the future, fewer books will be printed (increasing valuable text, paper, ink, landfill, etc.) so that people aren't interested in buying (or receiving).

- The Information Highway became the Information Highway and then if you were caught using any term that was mentioned in the popular press you ran the risk of being "flogged in a number."

- The Internet means that a 12 year old boy in Atlanta Ga. could create a million-dollar-plus business from his bedroom because on the Internet we all have potentially the same virtual presence. A twelve year old kid or General Motors is the same virtual size on the 'Net.

The developers of Netscape - a World Wide Web browser program - accidentally found a computer's Holy Grail - a universal, cross-platform interface that transparently allows us Internet to access the file uploading or downloading, anywhere on the world, in any format or known or unknown - compatible or not. This is something that most people who share the same computer can have a problem with. Of course most people didn't notice what had happened - but luckily the Netscape developers did, and now anyone

- **Canada Post Income trust** - for delivery of any document that can be digitally recorded. This is the list that all postal systems will have to deal with as they lose carrying rights in documents that can be sent via the Internet.

• Canada Post ever push to impose its customer code immediately whenever the Internet threat by publishing a brochure entitled "Name Desktop Publishing." Is it they promote the idea that "having your newsletter produced, printed and mailed by Canada Post will

you face of thousands of dollars' since getting designers, printers, and making houses to meet your budget and deadline constraints is a struggle. You might want to read our Government Services master David Duggan's appreciation for the opportunity to compete for the decreasing print market against your tax-reduced and Federal Government

• Home companies tried to understand how this carefully constructed Fidel system was being fed to the security of the Internet. In Atlanta, the phone company quickly reversed the threat by delivering television programming as a substitute to the local radio network.

- The first practical, targeted to the amateur market, digital camera the Canon EL 1000 shipped. Canon figures that there are enough groups and groups with computer systems and digital imaging technologies that want to use some of their grandchildren using those systems to make for a realistic, profitable market.

• Of course, China is right - folks over the age of 50 are statistically the second largest Internet Q & A computer survey user group. The first, of course, being 18 year old boys with over active imaginations.

- Digital photography, at the professional end, has finally achieved the quality level potentially associated with the hundred-year-old traditional analogue film method. No more environmental penalty because of wasted film and chemistry of photographers and clients alike.

• Digital processes were all the rage, as graphics are made easier. They allow 'on demand' online printing for short run lengths, typically less than a thousand copies. Again, the negative impact on the environment of traditional printing is lessened: no film, no processing chemicals, and reusable printing plates.

• The Topfex system recently detected a Taiwanese TSP and software has two warning signals. First it checks the domain type (com, gov, edu, etc.) and then the IP. For Chinese domains, the Topfex system checks the IP against a prohibited applications (Netscape, web browser, etc.) list that is to Chinese language. TSPs have to do valid work from sites that contain between 1,000 and 11,000 characters per style file, typical (experienced) comment flows and often built into a dedicated programmer or provide some code copy, protected to that cannot be used elsewhere. A second signal is the constant Chinese TSP alerts can be readily used off the shelf (openly-protected) North American software, rather than the chain of double protection in cultural embassies.

**About the author:** Gordon Fritchard is with the Larver Edge Company. He can be reached at phone (804) 642-1774 or e-mail: [info@larveredge.com](mailto:info@larveredge.com).

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1. **What is the purpose of the study?**  
 The purpose of the study is to determine the effect of the new curriculum on the learning outcomes of the students in the field of mathematics.

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## The Secrets of Service Bureau Success

You've stayed up till 3:00 a.m. for the whole week, skipped lunch and dinner, and still don't have the color of last night's *Cosmo* page, but it was worth it. Your twelve-page project is finally ready for the service bureau, just in time for your client's deadline. "Gee, hell, you

forgot to include the company's logo on the topgers. That'll cost you a day on the press, hundreds of dollars, and perhaps a lucrative client. Gosh!"

This scenario will sound familiar to many new to the ubiquitous industry of "desktop publishing." That's what happens when a ten-year-old industry collides with the 500-year-old tradition of print. It is the purpose of the service bureau to help noddies that know and prevent the catastrophe described above.

The service bureau is the most crucial step in the production process because that is where your ideas, images, and words become more than magnetic bits of noise on plastic and take on physical form on the way to becoming a finished product. There are the two most common and important questions asked at the service bureau. The answers will help you avoid most of the problems you are likely to face.

### How do I pick the right service bureau?

A good service bureau is one that can do everything you need when you need it, for as much, or as little, as you're willing to pay. The most basic services to look for would be color separations, optional black and white laser proofing, digital color proofing, engraving (usually called *Engraving*) output to paper and film using a true Adobe PostScript Raster Image Processor (RIP), and when necessary, technical assistance at a reasonable hourly rate. With typical turnaround for film being four to 14 hours, be sure to allow for that time in your production schedule. If there is a premium for fast turnaround (usually four hours or less), allow for that cost in your budget.

What are the best service bureau spots in, technically a greater commitment to the industry. Look for new, state-



The Altek D4000 drum scanner can scan prints or transparencies over 13 inches square with a resolution of 4000 dpi.

of the art imagemakers, computers, systems, and high quality color proofing systems all connected using a solid high-speed network. These places will likely offer additional services such as color trapping, high resolution drum scanning and imposition of large film jobs. They will usually have more support options, such as large color posters, short run color proofing, 15 mm film recorders, and large format film.

### What's the best way to set up my files?

Once you've found your service bureau, you need to make sure that your



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files are ready to output. First, find out which applications and versions they support. All worthy service bureaus will support PostScript, QuarkXPress, Illustrator, Freehand, and Photoshop on the Macintosh. If you're using Windows, it is crucial that your service bureau can read files on Windows systems, instead of a Macintosh. Any decent service bureau running Windows will support all the above programs, along with CoreDraw.

Save your service bureau in producing your output on a PostScript device, try to use EPS or PDF in your primary graphics format when outputting graphics to your layout. Both of these formats are optimized to print best on PostScript devices. Remember to send a copy of all your placed graphics with the output file. If necessary, most service bureaus offer file conversions between more popular formats, usually charged as an hourly basis.

If your program isn't supported, or if you find capable, you might try printing a PostScript file to disk, which is possible from every Macintosh and Windows program. All service bu-

reaus have PostScript files and may offer a discount, since they are less work to output. Be sure you understand the policy of PostScript files, though. Most can only send the file directly to the imprinter, so if it doesn't come out right, you could well be charged for the output. PostScript files are not for the uninitiated or faint of heart.

#### How can I avoid lost problems?

Early half of the problems encountered with service bureaus involve fonts, or rather the lack of them. While all major graphics applications will warn the operator that a file may fonts not installed on the computer used to output the file, most can't look at the fonts used in the placed images placed into the file. These fonts will usually print out as Generic, if at all. When you see the file has

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Adaptive Press	410 West George St. V6L 1G1 (604) 684-4444	2000 North St. V6L 1G1 (604) 684-4444	211 W. 1st Ave. Suite 100 V6L 1G1 (604) 684-4444	400 West George			

are fonts not supported by the service bureau. While some graphics programs will allow you to convert the text to curves (so that the computer no longer sees it as text, but as outlines) the most popular page layout programs do not.

Most service bureaus will support Adobe fonts on the Macintosh and CorelDraw fonts in Windows. If your service bureau doesn't directly support the fonts you're using, ask how they wish to handle your situation and develop a solution that respects the font copyrights before your deadline. You may also try

loading a Postscript file described above, since fonts are converted to Postscript code when you save the file.

How can I be sure I get the right colours?

Thanks to modern electronic publishing, it is now easier, and more affordable than ever, to add colour to your design. Your service bureau can output colour separations from your file as early as plain black and white, but it introduces a new level of complexity. If you require process colour separations, every image

ment have its colors defined in CMYK — process cyan, magenta, yellow and black. Scan from the service bureau will probably already be CMYK, but if they're from PhotoCD, clip art, or your own flatbed scanner, they may need to be converted in Photoshop or PhotoPaint.

Spot colours can be just as tricky. If you've assigned spot colours in your illustration program and placed them in your layout, it is crucial that the colour names are exactly the same, or the program will see them as different places. Let your service bureau know when you're using duotones and which colours apply. That way when the colours are printed on top of each other, they mix appropriately.

One last note on colors, and this one seems obvious: You must tell the computer how you need separations, and exactly which colors are to print. Don't assume they can tell just by opening your file.

What do I need to know about scanning?

Many service bureaus today offer high quality colour, greyscale, and line art scanning. Drum scanners offer higher resolutions and more accurate colour than flatbeds, but take more time to set up and scan, so choose wisely. If you're

getting a colour scan, you'll want the highest resolution appropriate, without making the resulting file unmanageable. Once you know the final size the image will be printed at, and the line screen used, you can use the formula  $(\text{line screen} \times 2 \times \text{size})^2 \times 100\% = \text{scan resolution}$  (in which case, uh, uh).

For best results, your originals should be either photographed prints or transparencies. Printed matter, like a magazine cover, will require discussion to determine the dot pattern present when printing. Ask about the effects of scanners they use and how you could best provide your materials.

## ►PRE-PRESS◀

- FILM & PAPER OUTPUT
- DRAW/FLATBED SCAN
- COLOUR PROOFING
- IMAGE EDITING
- 35MM SLIDES
- CONSULTING
- DCA

## DESIGN◀

CREATIVE GRAPHIC DESIGN◀

TYPESETTING & LAYOUT◀

WEB PAGE DESIGN◀

**Acad Graphics**

120-1251 24th Avenue NW  
Richmond, BC V6V 2G1 Tel: 270-2231



Look for a genuine *Schibbe* PhotoSign  
ESP (vector image processor) such as  
the ESP 30 from Lechner-Mell

### Vancouver Service Bureau Directory

Company Name	Chassis Tech Inc.	Greif Xpress Inc.	Kity Gelman Imaging	CDFFCO Service Ltd	ASA/ Chrysalis Systems	Image Factory Inc	On Demand Color
Address	5132 Camino Del Rey HP 147 San Diego	128-0211 Salvage Rd San Diego	11100 San Diego	107-0714 Salvage Rd San Diego	130-0000 Salvage Rd San Diego	119-1111 Salvage Rd San Diego	110-0000 Salvage Rd San Diego
Phone	714-523-1111	714-523-1111	714-523-1111	714-523-1111	714-523-1111	714-523-1111	714-523-1111
Fax	714-523-1111	714-523-1111	714-523-1111	714-523-1111	714-523-1111	714-523-1111	714-523-1111
Website	www.chasstech.com	www.greif.com	www.kity.com	www.cdffco.com	www.asa.com	www.imagefactory.com	www.ondemandcolor.com
PC	485	485	485	485	485	485	485
Mac	485	485	485	485	485	485	485
File Compression	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other							
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
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Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
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Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)	0.125	0.125	0.125	0.125	0.125	0.125	0.125
Max. (in)	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Color							
Offset Max. (in)	400	400	400	400	400	400	400
Process Speed	11.11	11.11	11.11	11.11	11.11	11.11	11.11
Output Max. (in)							
Resolution							
Max. (in)	3000	3000	3000	3000	3000	3000	3000
Min. (in)							

Since some users can run a handheld magnifying glass over them, it would be silly to copy that much information onto your system, just so you can read it back when getting your output. If you were to be modifying the scan (except to hide or crop it in your layout program), you can request an FPO (for position only) file. This is a low resolution version that you can treat just like a big brother, without working with bugs, slow times, and all the server house to take to high resolution images when getting your output, and they'll take care of the rest.

Most server houses don't charge anything for this, since it saves them backing up huge files and virtually guarantees that you'll be back.

Wang, H., Liu, Y., & Zhang, J. (2018). The impact of digital technology on the retail industry: A case study of Alibaba's Singles' Day. *Journal of Retailing*, 94(1), 1-15.

The most overlooked, yet vital piece of information is your printer's hardware requirements. Laser versus, or line-per-inch, is a measure of how close together the printed dots that simulate colour shades are printed. Laser screens are usually distinguished by your printer as a function of the screen used and the speed

you are printing on. Late screens below 100 lpi can be output at 1270 dots per inch on an imageprinter without sacrificing quality to save money. For images above 100 lpi you'll need to output at 2540 dpi or higher. An amazing option is stochastic screening, which can often produce stunning results at lower resolutions, although not all printers currently support this capability.

Just as important as lens choice, when outputting to film, are resolution options. Do you want the film positive or negative? Emulsion or on demand?

Again, don't ignore these. Work with your service bureau and printer to find out what you need.

Should I get married?

Today's service bureaus offer a wealth of proofing options, to save a few bucks on a few hundred on output, or to save a few thousand on printing. Your service bureau can run a test of your files to a black and white laser printer before going to high resolution paper or film. For colour work, you should check proofs on a calibrated colour monitor.

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**Note:** For more Service Bureau Listing, see Information found back. Some countries are in insufficient data.

ing system. Calibration being the operative word, so not them to demonstrate their capabilities. The options are dye sublimation, continuous tone flow, or ink jet prints. This is especially important for precise colour work, since no computer monitor can accurately simulate the precise colour environment.

Many printers working in process colours will require a press proof made from the very film they will use to make

your printing plates. It's the only way to be sure that the colour on the press is accurate. You can choose from colour overlays and laserfilms.

#### How can I send my files to the service bureau?

Your file is all set up, the colours are properly defined, and your order form is all filled out in duplicate and returned by the Queen. All that's left is to get the

file to your service bureau. Due to the size of graphics and gold-leafed files, floppy disks are often impractical. A good investment at this stage would be a high capacity removable disk drive. Most service bureaus support Syquest, magnetic optical, Inmag 24p drives, and a host of other options.

Thanks to affordable, fast modems and the Internet, many service bureaus allow you to send your files electroni-

cally. Some offer a free, direct bulletin-board system with speeds up to 28.8 kilobits per second. Your service bureau might even have presence on the Internet, allowing you to upload directly to their server. You will need to fix a completed order form with specific details on what your file is called and how it was sent.

If none of these options appeals to you, and your files are small enough, you could send them on floppy disk. To make the files more manageable there are several compression and decompression file compression programs available. The best of these are WinZip Deluxe and CompactPro for the Macintosh and PKZip for DOS.

#### Can I be sure I've done everything right?

If you've followed all the above instructions, your files should be RIP ready. You might want to try simulating the process environment to make sure that what you see is what you get.

Copy the files you're just loaded up to a new, empty directory on your hard drive, and work only from these files. Follow the instructions you've written on the form and print the file exactly as needed, including colour separations. If your printer can't handle the size of your image, scale it down so that it fits on the page (crop and registration marks add about one inch). If you have a PostScript laser printer you can test PostScript files by downloading them directly. Look at each page, especially if you're using process colours. If an image printed only on the black plate when you wanted colour, it may be an RGB image.

This may seem like a waste of time and paper, but it could cost you more time and money if anything goes wrong later.

#### In that if?

There are not so many rules as rules-of-thumb. Each service bureau offers different services and will have specific requests to make from their clients. These steps will save considerable if you're new to the service bureau experience, but become second nature with experience and determination.

Ultimately, you want to deal with a service bureau that treats you with respect and that you can trust to do it right the first time, every time. If you've fitted out your order form, provided laser proofs as insurance, and done everything listed here, then there's little to prevent your experience with your service bureau from being pleasant and mutually beneficial. ☐

This article is compiled by the team at BVA/BBDO. Papers must flow at 654-654-3440.

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# Digital and ISDN modems

By Sean Edington

Over the past year or so things have gotten rather complicated when it comes to modems. Many desktop vendors are now promoting "digital modems" with their routers and other remote access equipment. What is a "digital modem"? Unfortunately, the term "digital modem" can refer to three different things: a CSU/DSU, an ISDN TA/NTI or a modem capable of receiving digital data in and out with the analog modulation/modem interface. Using these terms is

not will typically use a Channel Service Unit / Digital Service Unit (CSU/DSU) on the line. These units power the line and look much like an ordinary data center modem. Because the link is digital from end to end, there is no need for an analog signal so CSU/DSUs are not really true modems. Nevertheless, many people do refer to them as "digital modems."

An ISDN (Integrated Services Digital Network) TA and NTI are often combined into one unit and sometimes called a "digital modem." The NTI (Network Termination Unit Class 1) provides power to the line and takes the 2-wire ISDN line in through a "U" interface and converts it into a 4-wire line.

A, for confused? Hang in there.

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# Computer Conferencing on the MBONE

By Andrew David

**Y**ou may have heard of the Moore and Winford what it was. Several rock concerts have been broadcast on the medium, including one from the Rolling Stones. NASA missions are routinely sent over the Moore, as are Internet events such as the WWW and IETF conferences. The media always says that it requires "special equipment" to receive these transmissions. This "special equipment" is merely a computer with a modern UNIX operating system, such as a PC costing \$2500 and running FreeBSD, NetBSD or Linux. A soundcard is required to receive audio, and a TV camera and video grabber are required to broadcast your own material.

Moore stands for "multicast backbone." Although LANs such as Ethernet are capable of multicast (transmitting the same packet to multiple destinations), the Internet as a whole currently is not. The way around this is to establish a network of multicast routers around the world, linked by "tunnels." Each multicast data packet has a TTL parameter that controls how far it will travel. Packets with a TTL of 32 will cross the world.

Multicast is similar to the regular Internet protocol, except that it gives to more than one place. A block of IP addresses starting with 224 is set aside for multicast, and each address can have many "ports", so that the address space is quite large, kind of like having a few hundred thousand TV channels. There's a finite bandwidth, though, so there can't currently be more than one or two events with worldwide coverage at the same time.

Several applications have been written to use multicast addressing for remote conferencing. These include video, audio and whiteboard tools which allow users at many sites around the world to receive transmissions from a single source. Users can also participate by asking questions or writing on a whiteboard. The tools can also be used point-to-point using regular addresses.

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to link two workstations. For multiboot transfer centers, they are usually controlled by a screen test, which displays information about available services, pressing address and port data to the individual tools.

They are quite sophisticated, supporting encryption, control of rights to

talk, and several encoding methods. While available for many flavors of UNIX, including those that run on a PC, they are not yet available for Macintoshes with Windows NT and Windows 95 having better Internet support and multitasking, it is surely just a matter of time.

The snapshot shows the screen directory tool, an audio tool, and video tool. The video tool can accommodate multiple sources, share as separate thumbnails. Clicking on the thumbnail produces a larger viewing window.

Normal transmissions use 128Kbps for video and 64Kbps for audio using



PCM coding. GSM coding can reduce the rate to bandwidth to about 11Kbps, while the video bandwidth can be reduced by adjusting the transmitted frame rate. Don't expect to see the H.264 transmission through a 28K modem though.

The Mbone is still viewed as experimental, so is not available via from most carriers' ISPs, though it is possible to set up your own tunnel from your LAN via a nearby (in Net terms) Mbone router.

For more information about the Mbone, conference tools, mailing lists etc., see <http://www.cerwin-webpages.com/mbone>.

About the author: Andrew Beale is a columnist at *Newsweek Webpages*. He can be reached at e-mail [andrew@www.cerwin-webpages.com](mailto:andrew@www.cerwin-webpages.com).

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## Using Internet Applications With Windows 95

### Introduction

Windows 95 provides support for users to access the Internet, regardless of the application or the service provider they choose. Most applications run fine under Windows 95, however some applications use non-standard components and may require special configuration to run correctly under Windows 95.

The purpose of this article is to answer commonly asked questions regarding these applications, provide background regarding Windows 95 support for the Internet, and to inform users how to configure these applications to run correctly under Windows 95.

**Can I run Compaq's/Spire's Internet Initiator, Mosaic, Netscape, etc. with Windows 95?**

Yes, all of these applications run with Windows 95. Some applications (listed below) use either non-registry-standard or real-mode components and some configuration is needed.

**Can I use my third-party browser with Windows 95's own TCP/IP and Winsock?**

Yes.

**Can I run multiple browsers on my Windows 95 system? Can I run third-party browsers together with Microsoft's own Internet Explorer?**

Yes.

**Does installing Microsoft's own Internet Explorer overwrite, remove, or disable my existing Internet browser?**

No. In some cases, special configuration may be needed.

### Background

**Internet Support in Windows 95**  
Microsoft Windows 95 provides easy access to the Internet, whether you dial into a commercial Internet provider or you gain access via your corporate network. Windows 95 provides all the "plumbing" you need to tap into the information on the worldwide Internet network. Microsoft is committed to the openness of the Internet and to industry standards, and to making Windows 95 the central platform to explore the Internet, regardless of the application or the service provider. Built-in support for TCP/IP, dial-up protocols, such as Point-to-Point Protocol (PPP) and Serial Line Internet Protocol (SLIP), and Windows Sockets make connecting to the Internet

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By providing these services as part of the base operating system, Windows 95 represents a huge step forward over

previous versions of Windows. An analogy can be drawn to Windows printer drivers. Prior to Windows, users were forced to go to the vendor of each application to obtain the driver for their specific printer. That driver was specific not only to the printer, but also to the application - a user could not use that driver with another vendor's application. This placed a burden on both the user,

who had to find each driver, and also the vendor, who had to develop the driver. By providing printer drivers in Microsoft Windows, both the users and application developers benefited - users could use a single driver for all applications, and application vendors could be free of writing driver-dependent code. Similarly, providing

(Continued on page 6)

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# ISP demise greatly exaggerated

By Jean Black

**T**his just in: We're all on a much worse with disaster!

Over the dozen or so years in which I've been deeply involved in the computer industry, every type of technology and rate of change has been labeled at one time or, ahem, "temporarily" as by outsiders and insiders alike. I've been on both sides of the fence on this one.

During the years where I worked with voracious users of high-end technology, my colleagues and I sat about, musing on, in our knowledgeable ways, about how "temporary" it surely won't be in business in a few months or how a particular technology is flawed and should let the latest buzz take over. I was an employee who experienced, first-hand, what a likely history's most profound and largest corporate turnaround and restructuring in a little sport company called IBM which just refused to die. From this I gained a more balanced perspective - and patience - for such predictions.

This is was with internet that I listened to academic and industry voices debate what 1996 will hold in store for the Internet and its various players in the Internet World '96 conference in Toronto last mid-June. These conferences usually have speakers who have minor differences on the same general theme or opinion. Indeed, everyone seemed to agree that: (1) the Internet is big and going BIGGER, (2) the commercialization of the Internet is beyond its adolescence stage and is entering its consciousness puberty phase and (3) everyone (including the speakers) is having a difficult time keeping up with the speed of change within this phenomenon.

However, beyond that, there were some radically different thoughts as to where the Internet is headed and what - or who - the major influences will be in 1996 and 1997.

A few speakers feared the entire collapse of the Internet in 1996 due to the overwhelming growth of the Internet and the inability of the worldwide communications infrastructure to handle the

volume of users. Of interest was the consistent disclaimer by all the speakers I heard address the question of the cable companies wanting to participate in the Internet arena. There was a general consensus that no one in a true expert on the Internet as the Internet keeps changing daily.

But the one that caught my attention a little more than the others was the pronounced by one speaker that all Internet service providers (ISPs) would be out of business by the end of the year. As the owner of an ISP, I certainly cringed in my seat to better hear the details of my demise.

The essence of what the speaker said was that any small ISP would likely not survive the onslaught of the Canadian national providers and the migration of on-line service giants such as CompuServe and America On-Line Canada (who, I might tangentially add, had the courtesy to call themselves AOL Canada with no mention of the actual "A" word). Interestingly enough, the speaker also implied that the arrival of the cable giants to the Internet game was only thought to be truly relevant by the cable companies themselves (which drew chuckles from the crowd) and that they would not be any force in the Internet arena for at least 12-18 months, with their role and impact thereafter being questionable.

To be fair to her viewpoint, though, the 1995 acquisition of a couple of local, established ISPs by a national Internet provider does indicate a fair amount of activity out there. In my humble opinion it represents something other than a core muscle mass roll of its spindly little legs by the big fellow with some dough to spend.

What has started to happen, and will continue to happen, is a fragmentation (or a dissolution) of a measuring marketplace into 3 distinct classifications:

1. The owners of large networks specifically for the purpose of being in the Internet game.

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## Using Internet Applications With Windows 95

(Continued from page 65)

system support for Internet services means that users will no longer have to find vendor-specific Internet files, and Internet application developers can concentrate on creating great applications such as world-wide-web

browsers for their users instead of spending development cycles on low-level drivers.

### Windows Sockets

Providing support for Windows Sockets services allows use of any of the

large collection of third-party and public-domain Internet utilities to easily connect to the Internet and access the thousands of worldwide information servers. Windows 95 includes the industry standard Windows Sockets 1.1, based on the I.T.C Berkeley Sockets specification. Windows Sockets is installed when a user chooses to install either the Microsoft TCP/IP or the

Microsoft IPX/SPX compatible protocol.

Most Internet tools work fine with the Windows Sockets support that ships with Windows 95. Some Internet applications, however, rely on extended, proprietary versions of Windows Sockets to function. This article explains how to configure those applications so that they will work properly with Windows 95.

### Configuring Specific Applications Under Windows 95

#### Applications Using Proprietary Windows Sockets Support

Some applications rely on extended versions of Windows Sockets for dialing and other vendor-specific functions. Most of these applications install their proprietary version of WINSOCK.DLL (the file that provides Windows Sockets support) in their own application directory and work fine with Windows 95. Some applications, however, install their version of WINSOCK.DLL in the Windows directory. This can lead to conflicts with Windows 95's Windows Sockets 1.1 support (which also includes a file called WINSOCK.DLL) and these applications may not function correctly.

The following applications are known to install a proprietary version of WINSOCK.DLL in the Windows directory:

CompuServe FileLauncher 1.00.04

Spyglass In A Box 1.0, 1.1, 2.0

Network Telephony TCP Pro Remote

Microsoft has been working with the vendors of the above applications for the past few months on resolving this issue. Microsoft has published guidelines for application developers that encourage them to place any vendor-specific files in the application directory, rather than the Windows directory. All of the vendors of the above products have committed to modifying their installation procedures so that it installs their version of WINSOCK.DLL in the application directory. A fix is already available from CompuServe that moves their file from the Windows directory into the appropriate application's directory, and this issue will be resolved with their next release, due in September.

There are 2 scenarios where a user might experience this issue with Windows 95:

1. A user has one of the above applications, with a vendor-specific WINSOCK.DLL in the Windows directory and upgrades to Windows 95.
2. A user is running Windows 95 with the Microsoft standard WINSOCK.DLL and installs one of the above applications, which attempts to overwrite the Microsoft standard version.



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### Scenario 1: Upgrading to Windows 95 While Existing Applications

If the user chooses to install either Microsoft TCP/IP or the Internet IPX/SPX compatible protocol when upgrading to Windows 95, the existing WINSOCK.DLL in the Windows directory is renamed WINSOCK.OLD and the Windows 95 WINSOCK.DLL is placed in the Windows directory. This renaming may also take place if the user installs the Internet Jumpstart Kit. This may cause the above applications to no longer function correctly.

### Scenario 2: Installing New Third-Party Applications Under Windows 95

If the user has installed either Microsoft TCP/IP or the Microsoft IPX/SPX compatible protocol, or the Internet Jumpstart Kit, when they install one of the above applications, the Windows 95 WINSOCK.DLL is replaced by the vendor-specific version. The application's install program may or may not prompt the user to overwrite the existing file. Immediately after installing the application, Windows 95 may detect that a system file has changed and automatically copy a backup of the Windows 95 WINSOCK.DLL from the WINDOWS\SYSTEM32 directory (created automatically by Windows 95) into the Windows directory overwriting the vendor-specific version.

In both scenarios, the solution is to copy the WINSOCK.OLD from the Windows directory to the application's directory and rename the new copy WINSOCK.DLL. Make sure that the application's working directory and any configuration information point to the application directory, rather than the Windows directory.

Another solution is to rename the proprietary WINSOCK.OLD to WINSOCK.DLL, and to rename Microsoft's standard WINSOCK.DLL to WINSOCK.OLD. This method may have an effect on other applications that rely on the industry standard Windows sockets 1.1 support, such as Microsoft's Internet Explorer.

### Applications That Rely On Real-Mode Networking

Some applications include 16-bit, real-mode networking drivers to communicate over the Internet. These real-mode drivers may conflict with Windows 95's 32-bit, protected-mode TCP/IP implementation.

Netscape Navigator Personal Edition 1.1 is one of the applications known to include their own real-mode networking components.

Netscape Navigator Personal Edition 1.2 solves the issue by using an all-VxD (no real-mode driver) solution for Netscape Navigator Personal Edition 1.1 users. Netscape Communications will be offering an

upgrade to Netscape Navigator Personal Edition 1.2. For more information, check out: <http://www.netscape.com/comprod/updates/index.html>

If you want to configure Netscape Navigator Personal Edition 1.1 to work with Windows 95, you may need to disable Windows 95's 32-bit TCP/IP, and re-enable the application's 16-bit drivers. To do this:

1. Open the file C:\windows\wininit.ini and remove and add 'win' (no quotes) to the beginning of the line c:\windows\wininit.start
2. Remove 'win' - By Windows 95 Network - from the list
3. Save this file
4. Open the file C:\winlog.sys in

Notepad and remove 'win' - By Windows 95 Network - from the list

5. By Windows 95 Network WINSOCK.DLL WINSOCK.DLL (no quotes) / C:\WINDOWS\SYSTEM32\WINSOCK.DLL
5. Save this file
6. Close the Notepad application and restart Windows 95 so that your changes will take effect. You should now be able to use the above applications in the usual manner.

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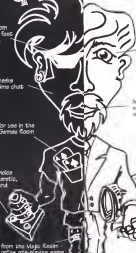
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